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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/735,374	12/11/2000	Dennis T. Lai	TITAN-55664	3933

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EXAMINER

WARE, CICELY Q

ART UNIT	PAPER NUMBER
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2634

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DATE MAILED: 03/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/735,374

Applicant(s)

LAI ET AL.

Examiner

Cicely Ware

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 29-33 is/are allowed.
- 6) ☒ Claim(s) 1-28, 34 and 35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. This application has been filed with informal drawings, which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The disclosure is objected to because of the following informalities:

- a. Pg. 6, line 16, applicant uses "spreading pockets". Examiner suggests using "spreading packets" for clarification purposes.

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- b. Pg. 8, line 14, applicant uses "nature eof". Examiner suggests using "nature of " for clarification purposes.

c. Pg. 11, line 12, applicant uses "IJ". Examiner suggests deleting the "J" for clarification purposes.

d. Pg. 13, line 9, applicant uses the phrase "parameters 32 to transmitted". Examiner suggests using "parameters 32 to be transmitted" for clarification purposes. Appropriate correction is required.

Claim Objections

4. Claims 23, 25, 28 and 30 are objected to because of the following informalities:

a. Claim 23, examiner suggests inserting the period after the claim number.

b. Claims 25 and 28 use the phrases "recovery by it", "transmitted by it", and "processing by it". Examiner suggests applicant delete the "by it" phrase in all these instances for clarification purposes.

c. Claim 30, line 4, applicant uses "the date". Examiner assumes applicant means "the data". Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 3-5, 8-11, 13, 26 and 28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which is not described in the specification in such a way as to reasonably convey to one skilled in the relevant art.

a. In Claims 3-5, 8 and 13 applicant makes reference to an "additional preamble". Examiner is unable to find any reference or distinguishing support for the limitation "additional preamble" as referenced in applicants claims 3-5, 8 and 13.

Therefore claims 3-5, 8 and 13 have not been further treated on the merits.

b. In Claim 9, applicant makes reference to "additional reverse link parameters". Examiner is unable to find any reference or distinguishing support for the limitation "additional reverse link parameters" as referenced in applicants claim 9.

Therefore claim 9 has not been further treated on the merits.

c. In Claim 10, applicant makes reference to a "further preamble". Examiner is unable to find any reference or distinguishing support for the limitation "further preamble" as referenced in applicants claim 10. Therefore claim 10 has not been further treated on the merits.

d. In Claim 11 applicant makes reference to a "higher layer network". Examiner admits that applicant has made mention to a "higher layer network" on Pg. 10, lines 6-14 of the disclosure. However applicant does not provide a sufficient description of this "higher layer network" in order to convey its relationship to the invention.

Therefore, Claim 11 has not been further treated on the merits.

Examiner suggests applicant make mention as to what environment the invention pertains to.

e. Claim 26 and 28, applicant makes reference to a "first higher layer network " and a "second higher layer network". Examiner is unable to find any reference or distinguishing support for the limitation "first higher layer network " and a "second higher layer network" as referenced in applicants claims 26 and 28. Therefore claims 26 and 28 have not been further treated on the merits.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

7. Claims 1, 2, 6, 7, 12, 14-25, 27, 34 and 35 are rejected under 35 U.S.C. 102(a) as being anticipated by Oler et al. (US Patent 6,031,866).

(1) With regard to claim 1, Oler et al. discloses in (Fig. 1 and 2) an equalization system wherein the method of communicating between first and second stations, includes the steps of: providing at the first station a preamble including reverse link parameters individual to the first station and providing data after the preamble, transmitting the preamble and the data from the first station to the second station, receiving the preamble and the data at the second station and recovering the data at the second station, providing a preamble and data at the second station, the preamble

including forward link parameters in accordance with the reverse link parameters received at the second station from the first station, and transmitting the preamble and data from the second station to the first station (abstract, col. 8, lines 34-60, col. 9, lines 24-26, 30-32, 38-42).

Oler et al. discloses a preamble including forward link parameters at a first station. Once this preamble and data are received at a second station, the second station then uses this same preamble as reverse link parameters.

(2) With regard to claim 2, claim 2 inherits all the limitations of claim 1. Oler et al. further discloses steps of receiving at the first station the preamble and data from the second station and recovering the data at the first station in accordance with the forward link parameters in the preamble from the second station (col. 8, lines 34-60, col. 9, lines 24-26, 30-32, 38-42).

(3) With regard to claim 6, claim 6 inherits all the limitations of claim 1. Oler et al. further discloses in (Fig. 1 and 2) the steps of providing at the second station a channel estimation (130) from the preamble and the data received at the second station, providing a reverse link parameters assessment (144, 44) in accordance with the data received at the second station and the channel estimation at the second station, formatting a frame in accordance with the reverse link parameters assessment and the data to be transmitted and the forward link parameters (118, 18), and processing the forward link parameters and the formatted frame at the second station in accordance with the forward link parameters to provide waveforms for transmission to the first station (col. 8, lines 34-60, col. 9, lines 24-26, 30-32, 38-42).

(4) With regard to claim 7, Oler et al. further discloses providing at the first station a preamble including forward link parameters and reverse link parameters, both individual to the first station and providing data after the preamble, transmitting the preamble and the data from the first station to the second station, receiving the preamble and the data at the second station, recovering the data at the second station in accordance with the forward link parameters from the first station, providing at the second station a preamble including forward link parameters in accordance with the reverse link parameters received at the second station and including reverse link parameters individual to the second station and providing data after the preamble, and transmitting the preamble and the data from the second station to the first station (Fig. 1 and 2, col. 8, lines 34-60, col. 9, lines 24-26, 30-32, 38-42).

Oler et al. discloses a preamble including forward link parameters at a first station. Once this preamble and data are received at a second station, the second station then uses this same preamble as reverse link parameters.

(5) With regard to claim 12, claim 12 inherits all the limitations of claim 7. Oler et al. further discloses in (Fig. 1 and 2) the steps of: providing a channel estimation (130) for the preamble and the data received at the second station, providing an assessment (28, 44, 30) of the channel estimation and the received data at the second station to determine the reverse link parameters individual to the second station.

(6) With regard to claim 14, Oler et al. further discloses in (Fig. 1 and 2) an equalization system wherein a method of communicating between the first and second stations, comprises the steps of: providing at the first station a preamble including

forward link parameters and reverse link parameters (126), providing data after the preamble, and transmitting signals representing the preamble and the data in a packet to the second station (col. 8, lines 34-60, col. 9, lines 24-26, 30-32, 38-42).

Oler et al. discloses a preamble including forward link parameters at a first station. Once this preamble and data are received at a second station, the second station then uses this same preamble as reverse link parameters.

(7) With regard to claim 15, claim 15 inherits all the limitations of claim 14. Oler et al. further discloses wherein a training sequence is included in the preamble (col. 8, lines 45-53, col. 9, lines 38-40).

(8) With regard to claim 16, claim 16 inherits all the limitations of claim 14. Oler et al. further discloses wherein the forward link parameters include information relating to at least one of modulation type, code rate of a forward error rate correction and spreading factor of the signals in the packet (col. 1, lines 22-26, col. 10, line 29).

(9) With regard to claim 17, claim 17 inherits all the limitations of claim 14. Oler et al. further discloses the discloses wherein the reverse link parameters include information relating to at least one of modulation type, code rate of a forward error rate correction and spreading factor of signals in preamble in a packet to be transmitted from the second station to the first station (Fig. 1 (144, 118), col. 1, lines 22-26, col. 8, lines 34-60).

(10) With regard to claim 18, claim 18 inherits all the limitations of claim 14. Oler et al. further discloses wherein the preamble includes a training sequence and the

training sequence includes sequences for at least one of sequence synchronization, channel estimation and delay profile (Fig. 1, col. 8, line 35-42).

(11) With regard to claim 19, claim 19 inherits all the limitations of claim 14. Oler et al. further discloses wherein the forward link parameters include information relating to at least one of modulation type, code rate of a forward error correction and spreading factor of the signals in the packet and wherein the reverse link parameters include information relating to at least one of modulation type, code rate of a forward error rate correction and spreading factor of signals in a preamble in a packet to be transmitted from the second station to the first station and wherein the preamble includes a training sequence and the training sequence includes a sequence of at least one of synchronization, channel estimation and delay profile (col. 8, lines 45-53, col. 9, lines 38-40, col. 10, line 29).

(12) With regard to claim 20, Oler et al. further discloses in (Fig. 1 and 2) an equalization system wherein the method of communicating between first and second stations, includes the steps of: providing for each station, in communicating with the other station, preamble including forward link parameters (126, 142) and reverse link parameters (144, 118), providing data for each station to be transmitted to the other station, providing for each station packets each including a preamble to be transmitted from the station to the other station and each including data to be transmitted after the preamble, the forward link parameters for the preamble in each station being provided in accordance with the reverse link parameter previously transmitted to the station in a packet from the other station, and the reverse link parameters for each preamble in

each station providing an indication to the other station of the forward link parameters to be provided by the other station in the next transmission of a packet from the station to the other station (col. 8, lines 34-60, col. 9, lines 24-26, 30-32, 38-42).

Oler et al. discloses a preamble including forward link parameters at a first station. Once this preamble and data are received at a second station, the second station then uses this same preamble as reverse link parameters.

(13) With regard to claim 21, claim 21 inherits all the limitations of claim 20. Oler et al. further discloses wherein each preamble to be transmitted from each station to the other station includes a training sequence (col. 9, lines 38-40).

(14) With regard to claim 22, claim 22 inherits all the limitations of claim 21. Oler et al. further discloses wherein each training sequence includes at least one of synchronization, channel estimation and delay profile (col. 8, lines 35-43).

(15) With regard to claim 23, Oler et al. further discloses in (Fig. 1 (114, 112) and 2 (12, 114)) an equalization system wherein a first station is constructed to provide a preamble including forward link parameters and reverse link parameters and including data after the preamble, a second station displaced from the first station and constructed to provide a preamble including forward link parameters and reverse link parameters and including data after the preamble, each of the stations being constructed to transmit its preamble and data to the other one of the stations for processing by the other one of the stations, each of the stations being constructed to provide as its forward link parameters the reverse link parameters received by it from the other station (abstract, col. 8, lines 34-60, col. 9, lines 24-26, 30-32, 38-42).

Oler et al. discloses a preamble including forward link parameters at a first station. Once this preamble and data are received at a second station, the second station then uses this same preamble as reverse link parameters.

(16) With regard to 24, claim 24 inherits all the limitations of claim 23. Oler et al. further discloses wherein each of the stations including in the preamble, a training sequence for coordinating its station with the operation of the other station (col. 8, lines 34-60, col. 9, lines 24-26, 30-32, 38-42).

(17) With regard to claim 25, claim 25 inherits all the limitations of claim 23. Oler et al. further discloses wherein each of the stations including, in the forward link parameters transmitted to the other station, signals for facilitating the recovery of the data transmitted by the other station and for facilitating the processing of the recovered signals (Fig. 1 (42), Fig. 2 (142), col. 9, lines 24-26, 30-32, 38-42).

(18) With regard to claim 27, claim 27 inherits all the limitations of claim 23. Oler et al. further discloses wherein the forward link parameters for each station including at least one type of modulation, code rate of forward error corrections and spreading factor of progressive frequencies used in transmitting successive packets of signals between the stations (col. 9, lines 24-26, 30-32, 38-42, 46-47, col. 10, line 29).

(19) With regard to claim 34, Oler et al. discloses in (Fig. 1 and 2) a equalization system wherein a first station for transmitting data to a second station and for receiving data from the second station, a controller (142,42) for providing forward link parameters having characteristics for facilitating the recovery by the second station of data transmitted to the second station, an assessor (144,44) for providing reverse link

parameters individual to the first station in facilitating the recovery by the second station of data from the first station and in facilitating the processing of the recovered data by the second station, a formatter (128, 28) responsive to the forward link parameters, the reverse link parameters and the data to be transmitted to the second station for formatting the forward link parameters the reverse link parameters and the data into packets, and a processor (130) for processing the data in the packets in accordance with the forward link parameters to provide signals for transmission to the second station.

Oler et al. discloses a preamble including forward link parameters at a first station. Once this preamble and data are received at a second station, the second station then uses this same preamble as reverse link parameters.

(20) With regard to claim 35, claim 35 inherits all the limitations of claim 34. Oler et al. further discloses in (Fig. 1 and 2) wherein an estimator (130) for estimating parameters for facilitating the recovery at the station of the signals received at the second station from the first station, the assessor being responsive to the parameters estimated by the estimator for providing the reverse link parameters (28, 30).

Allowable Subject Matter

8. Claims 29-33 are allowed.

9. The following is a statement of reasons for the indication of allowable subject matter: The instant application discloses a method of communicating between first and second stations. Prior art references show similar methods but fail to teach a link

adaptation controller and a second processor for processing data at the transmitter in accordance with the forward link parameters along with the remaining limitations of the independent claims.

Conclusion

10. The prior art made record of and not relied upon is considered pertinent to applicant's disclosure:

- a. Eden et al. US Patent 4,583,090 discloses a data communication system.
- b. Wiedman US Patent 5,867,109 discloses satellite repeater diversity resource management system.
- c. Weigand US Patent 6400734 discloses a method and architecture for TDMA receiver incorporating a unique word correlation control loop.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cicely Ware whose telephone number is 703-305-8326. The examiner can normally be reached on Monday – Friday, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Cicely Ware

cqw
March 1, 2004



STEPHEN CHIN
SUPERVISORY PATENT EXAMINER
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